

Attachment B

Amended Claims - Clean Copy

1. Pigments of silica-iron oxide comprising a silica component (SiO_2) obtained from microsilica, having a ratio of silica that ranges between 70 and 98% by weight, and a ratio of iron oxide that ranges between 2 and 30% by weight.
2. A process for obtaining pigments of claim 1, comprising the following steps:
 - s) blending majority and minority raw materials containing microsilica and iron oxide, respectively, to form a blend of raw materials,
 - t) agglomerating the blend of raw materials,
 - u) calcinating in an oven the agglomerated blend with a thermal cycle at temperatures between 800 and 1300°C, with residence times ranging between 1 and 24 h, to obtain a pigment,
 - v) blending the pigment to obtain a blend of pigment having particles with a particle size,
 - w) reducing the particle size of the obtained blend of pigment, and
 - x) final blending with control of chromaticity coordinates of the pigment.
3. A process according to claim 2, in which stages a) and/or b) are carried out in dry conditions.
4. A process according to claim 2, in which stages a) and/or b) are carried out in wet conditions.
5. A process according to claim 3, in which the blend from stage a) is carried out by milling.
6. A process according to claim 4, in which the mixture from stage a) is carried out by dispersion.

19. A ceramic product in accordance with claim 18, wherein the product consists of a porcelain stoneware.

20. A porcelain stoneware in accordance with claim 19, comprising chromatic coordinates (Hunter-LAB) in the following ranges: $L = 36-46$, $a = 10-18$ and $b = 7-11$, for a percentage pigment of 2% that gives a colour of red-orange tone.

Attachment C

Original PCT Claims

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CLAIMS

1. Pigments of silica-iron oxide characteris d in that the silica component (SiO_2) is obtained from microsilica, having a ratio of silica that ranges between 70 and 98% by weight, while the ratio of iron oxide ranges between 2 and 30% by weight.

2. A process for obtaining pigments of claim 1, characterised in that it comprises the following steps:

- 10 a) Blending the majority and minority raw materials, containing microsilica and iron oxide
- b) Agglomerating of the resulting blend of raw materials from the previous stage
- 15 c) Calcinating in an oven the agglomerated blend obtained in the previous stage with a thermal cycle at temperatures comprised between 800 and 1300°C, with residence times ranging between 1 and 24 h,
- 20 d) Blending the pigment obtained in the previous calcination step,
- e) Reducing the particle size of the obtained blend of pigment,
- f) Final blending with control of the chromaticity coordinates of the obtained pigment,
- 25 g) Dosing and packaging.

3. A process according to claim 2, in which stages a) and/or b) may be carried out in dry conditions.

4. A process according to claim 2, in which stages a) and/or b) may be carried out in wet conditions.

30 5. A process according to claims 2 and 3, in which the blend from stage a) is carried out by milling.

6. A process according to claims 2 and 4, in which the mixture from stage a) is carried out by dispersion, preferably in water.

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7. A process according to claims 2, 3 and 5, in which the agglomeration of stage b) consists of a granulation.

8. A process according to claims 2, 4 and 6, in which the agglomeration of stage b) consists of drying by atomisation.

9. A process according to claims 2 to 8, in which, before stage c) there is a prior pre-calcination step.

10. A process according to claims 2 to 9, in which, after stage c), there is a cooling step, prior to blending of the resulting pigment.

11. A process according to claims 2 to 10, in which step e) preferably consists of grinding or milling.

12. Pigments obtained according to the process of claims 2 to 11.

13. Use of microsilica as a source of SiO_2 in the manufacture of inorganic pigments and/or colorants.

14. Use of fumed silica as a source of SiO_2 in the manufacture of inorganic pigments and/or colorants.

15. Use according to claims 13 and 14, characterised in that the source of silica is obtained from condensation of gases evolved during the manufacture of silicon metal and/or alloys thereof.

16. Use of the pigments of claims 1 or 12, alone or in blends with other materials, as integrants in the compositions of enamels, glasses, ceramics, cements, plastics, laminates, graphic inks and rubber.

17. Use of the pigments of claims 1 or 12, alone or in blends with other materials, in the surface decoration of enamels, glasses, ceramics, cements, plastics, laminates, graphic inks and rubber.

18. A ceramic product characterised in that it includes in its composition the pigments of claims 1 or 12.

19. A ceramic product in accordance with claim 18, characterised in that it consists of a porcelain stoneware.

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20. A porcelain stoneware in accordance with claim 19, characterized in that it shows chromatic coordinates (Hunt x-LAB) in the following ranges: $L = 36-46$, $a = 10-18$ and $b = 7-11$, for a percentage pigment of 2% that gives a colour of red-orange tone.

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